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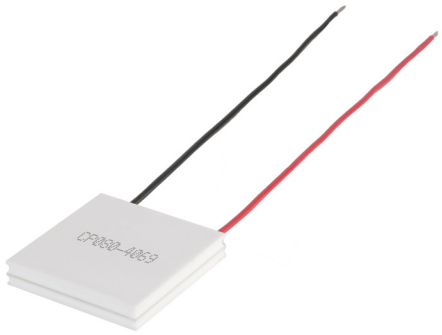
# MODEL: CP080-4069 | DESCRIPTION: PELTIER MODULE

## FEATURES

- 2-stage TEC module
- wide ΔT max
- precise temperature control
- silicone sealed
- solid state construction




RoHS

## SPECIFICATIONS

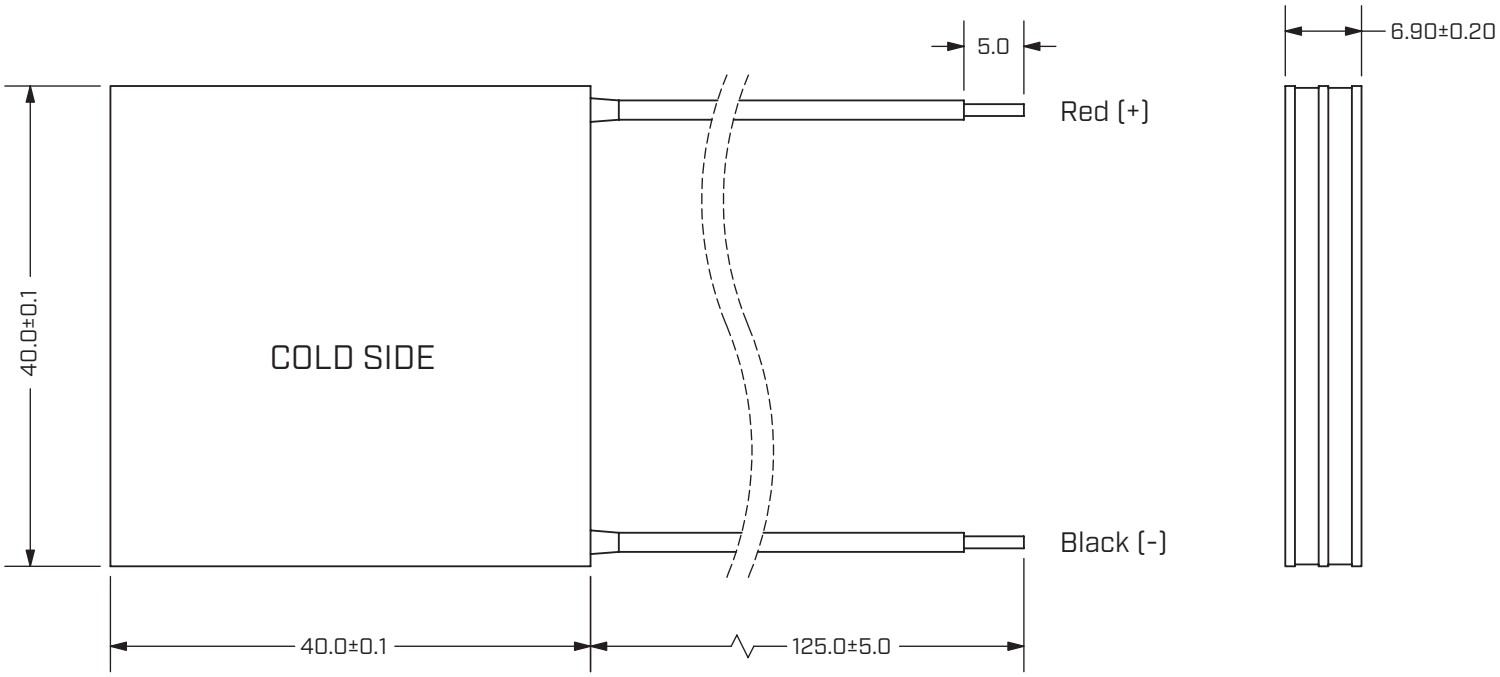
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| input voltage[1] | Th = 27°C<br>Th = 50°C | | | 14.6<br>16.4 | V<br>V |
| input current[2] | | | | 8.0 | A |
| internal resistance[3] | Th = 27°C<br>Th = 50°C | | 1.85<br>2.05 | | Ω<br>Ω |
| Qmax[4] | Th = 27°C<br>Th = 50°C | | | 53.1<br>55.9 | W<br>W |
| ΔTmax[5] | Th = 27°C<br>Th = 50°C | | | 90<br>100 | °C<br>°C |
| solder melting temperature | connection between thermoelectric pairs | 240 | | | °C |
| hot side plate | | | | 195 | °C |
| cold side plate | | -60 | | | °C |
| assembly compression | | | | 0.7 | MPa |
| RoHS | yes | | | | |

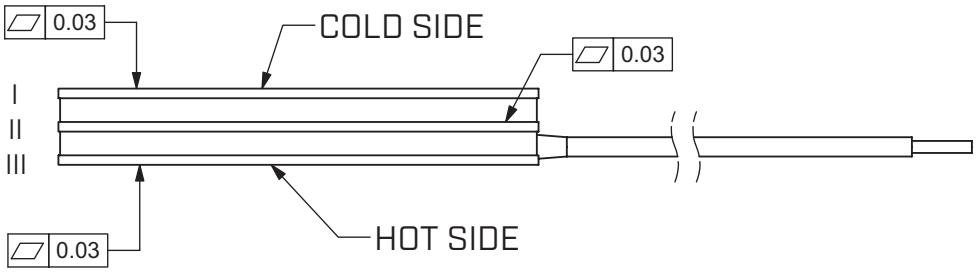
Notes:
1. Maximum voltage at ΔT max and $T_h$=27°C
2. Maximum current to achieve ΔT max
3. Measured by AC 4-terminal method at 25°C
4. Maximum heat absorbed at cold side occurs at $I_{max}$, $V_{max}$, and ΔT=0°C
5. Maximum temperature difference occurs at $I_{max}$, $V_{max}$, and Q=0 W (ΔT max measured in a vacuum at 1.3 Pa)
6. Tolerance for all thermal and electrical parameters is ±10%.

## MECHANICAL DRAWING

units: mm

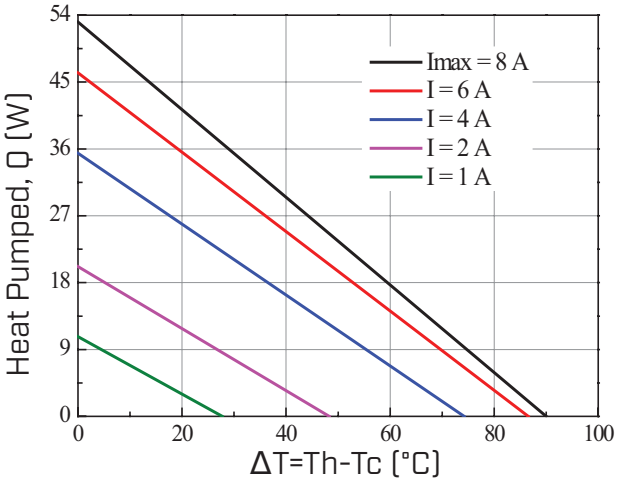
| | MATERIAL | PLATING |
|---|---|---|
| ceramic plate | 96% $AL_2O_3$ | |
| wire leads | UL3443 18 AWG | tin |
| sealer | 704 silicone sealant (between cold and hot side plates) | |
| marking | P/N printed on cold side surface | |



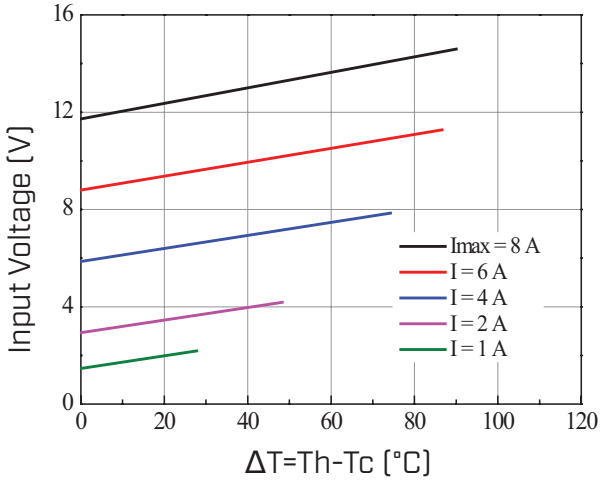



## PERFORMANCE (Th=27°C)

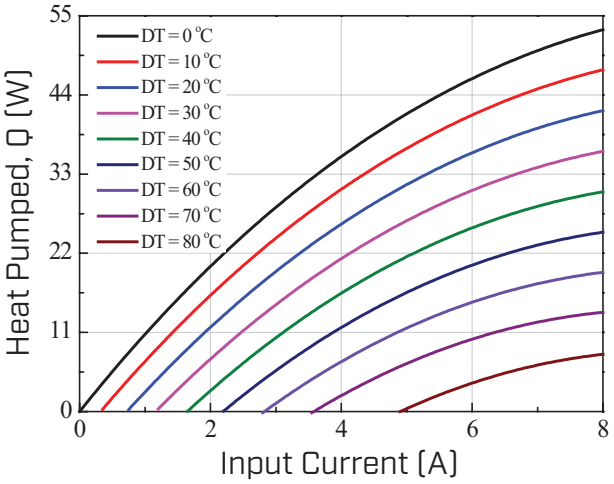
### Heat Pumped, Q Vs. ΔT



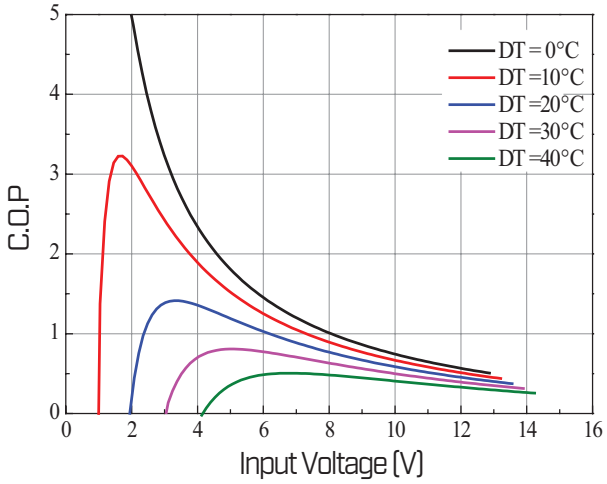

### Input Voltage, V Vs. ΔT



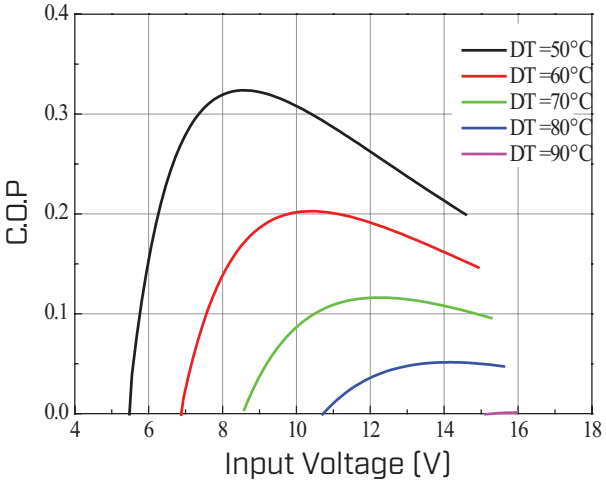

### Heat Pumped, Q Vs. Input Current, I




### COP Vs. Input Voltage, V (ΔT=0~40°C)

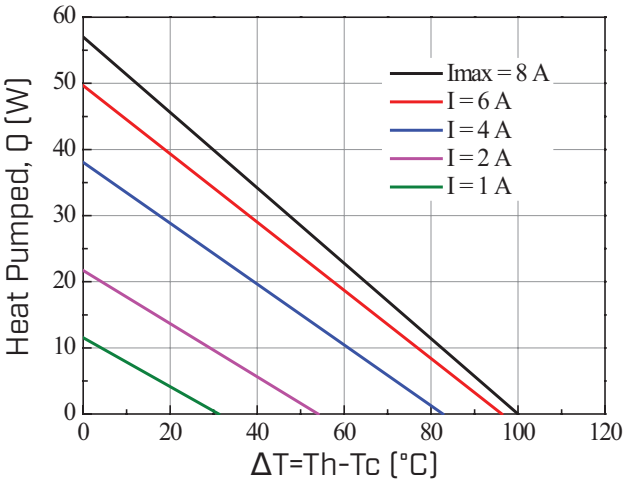



### COP Vs. Input Voltage, V (ΔT=50~90°C)

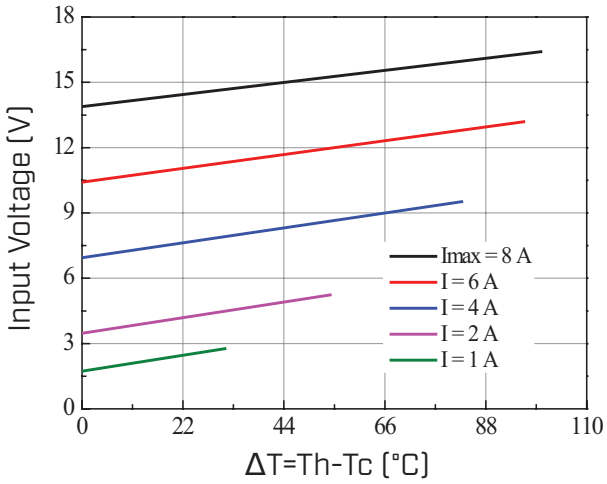


## PERFORMANCE (Th=50°C)

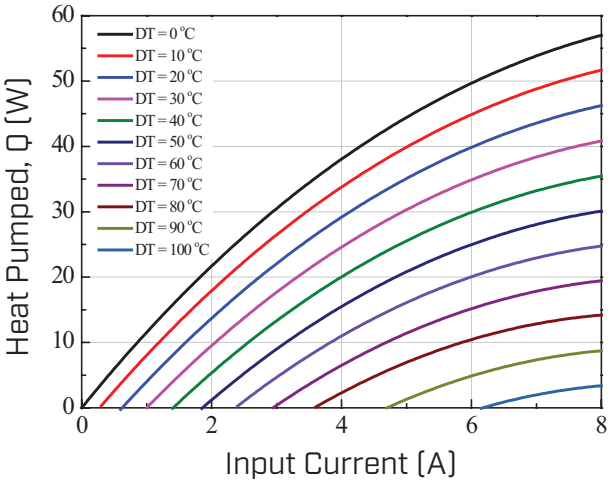
### Heat Pumped, Q Vs. ΔT



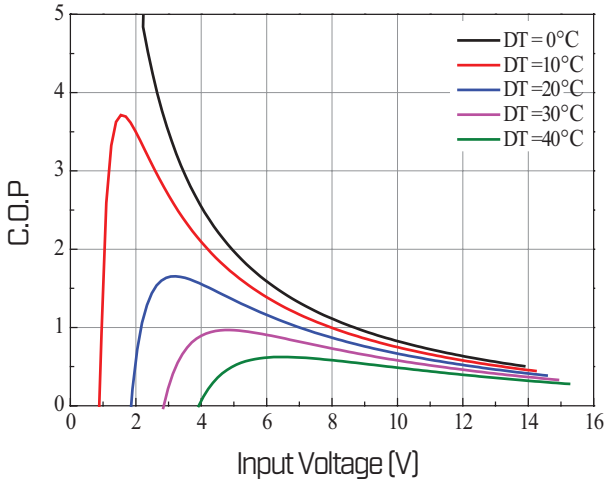

### Input Voltage, V Vs. ΔT



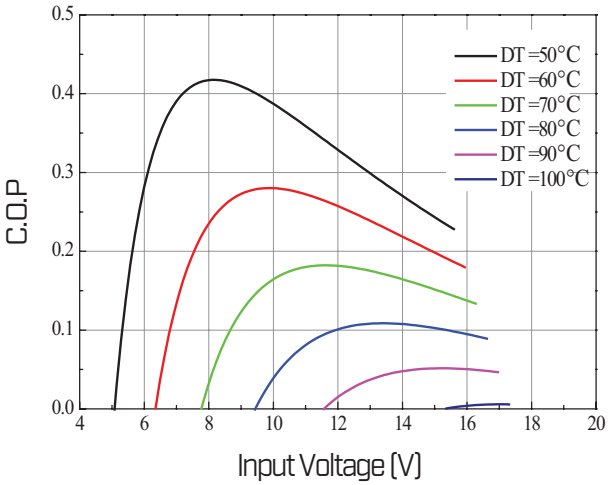

### Heat Pumped, Q Vs. Input Current, I




### COP Vs. Input Voltage, V (ΔT=0~40°C)




### COP Vs. Input Voltage, V (ΔT=50~100°C)



## REVISION HISTORY

| rev. | description | date |
|---|---|---|
| 1.0 | initial release | 12/10/2024 |

The revision history provided is for informational purposes only and is believed to be accurate.

same sky

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